

1 **WHAT IS CLAIMED IS:**

2 1. A digital network video and audio monitoring system, comprising:
3 a real time digital video and audio processing unit having multiple audio
4 and video processing modules, wherein the audio and video processing modules
5 are respectively connected to video and audio monitors to obtain monitoring
6 signals from the video and audio monitors;

7 a fast Ethernet switching unit connected to outputs of the real time
8 digital video and audio processing unit, wherein the fast Ethernet switching unit
9 has a media access controller (MAC) address table connected to WAN Interface;
10 and

11 a self-protecting and alarming unit connected between an external AC
12 power source and outputs of the video and audio monitors to detect abnormal
13 signals from the external AC power source or the video and audio monitors,
14 wherein when the external AC power source or any video and audio monitor
15 outputs an abnormal signal, the self-protecting and alarming unit will output an
16 alarming signal.

17 2. The monitoring system as claimed in claim 1, each video and audio
18 processing module comprising:

19 a programmable media processor connected to the video and audio
20 monitor, and having an image processor, a network server and a file transfer
21 protocol (FTP) server, wherein the programmable media processor transfers the
22 video and audio signals from the video and audio monitor to a specific digital
23 signal;

24 a network interface controller connected between the programmable

1 media processor through a PCI bus and the fast Ethernet switching unit, wherein
2 the network interface controller is set up an IP address and transfers the specific
3 digital signal to network packages with the IP address and outputs the network
4 packages to the inputs of the fast Ethernet switching unit; and

5 a programmable logic device connected to external devices and the
6 network interface controller through the PCI bus and receives a command signal
7 that is to control operations of the external devices.

8 3. The monitoring system as claimed in claim 2, wherein

9 the network server establishes a TCP/IP operation platform and sets up a
10 platform's states as a module's name, a system time, a system's IP address, a user
11 name, an HTTP platform, operations of the video and audio monitor, an alarming
12 function, protocol parameters; and

13 the external devices including a controller of each of the video and audio
14 monitors and a modem.

15 4. The monitoring system as claimed in claim 3, wherein the

16 programmable media processor further comprises a video connector and an
17 audio connector that are respectively connected to the output of the video and
18 audio monitor; and

19 the programmable logic device further comprises a DI/DO and an
20 RS-485 port that are connected to a controller of the video and audio monitor.

21 5. The monitoring system as claimed in claim 4, wherein the

22 programmable logic device further comprises an RS-232 port connected to the
23 modem.

24 6. The monitoring system as claimed in claim 5, wherein the video

1 connector is a BNC type and the audio connector is an RAC type.

2 7. The monitoring system as claimed in claim 1, wherein the fast
3 Ethernet switching unit further comprises a gigabit interface and a megabit
4 interface.

5 8. The monitoring system as claimed in claim 1, further comprising a
6 broadband router and firewall unit connected to the fast Ethernet switching unit,
7 wherein the broadband router and firewall unit was set up a published IP address.

8 9. The monitoring system as claimed in claim 8, wherein the broadband
9 router and firewall unit has a policy table in which multiple published IP
10 addresses of terminals over Internet are stored.

11 10. The monitoring system as claimed in claim 2, wherein the IP address
12 of each network interface controller is a virtual or a published IP address.

13 11. The monitoring system as claimed in claim 4, wherein the
14 self-protecting and alarming unit comprising:

15 a processor has a program to detect abnormal signals of the external AC
16 power source and the video and audio monitors, wherein the processor is
17 connected to the video and audio monitors through the video and audio
18 connectors;

19 a power converter connected between input of the processor and the
20 external AC power source, wherein the power converter converts the external
21 AC power source to a DC power source and then outputs the DC power source to
22 the processor;

23 a speaker connected to an output of the processor;

24 a display connected to the output of the processor; and

1 a keyboard connected to the input of the processor.